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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,138	08/29/2000	Shigetoshi Sameshima	10721-4US	8314

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EXAMINER	
LAZARO, DAVID R	

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/650,138	SAMESHIMA ET AL.	
	Examiner	Art Unit	
	David Lazaro	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-9,11-15,17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-9,11-15,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed 03/15/04.

2. Claims 1, 2, 5-8, 11-14, 17 and 18 were amended.

3. Claims 4, 10, and 16 were canceled.

4. Claims 1-3, 5-9, 11-15, 17 and 18 are pending in this Office Action.

5. Objections to the drawings are withdrawn based on proposed drawing changes.

6. The 35 USC 112 2nd paragraph rejections of Claims 2, 6, 8, 12, 14 and 18 are withdrawn.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3, 5-9, 11-15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Contract Net Protocol: High-Level Communication and Control in a Distributed Problem Solver" by Reid G. Smith (Smith) in view of U.S. Patent 6,300,904 by Dvorak et al. (Dvorak).

9. With respect to Claim 1, an inter-device cooperative control method wherein each of a plurality of devices having a communication function communicates with another device (Page 2, Col. 1 paragraph 4) said inter-device cooperative control method comprising the steps of: providing each of said plurality of devices with

functional information including at least one of information on a function possessed by a device and information on a function to be performed on the device (Page 2, Col. 2 paragraph 5 and Page 4, Col. 2 paragraph 3) , environmental information on the environment in which the device is located (Page 2, Col. 2 paragraph 5) and status information which indicates the progress of at least one of a process performed by the device and a process performed on the device (Page 5, Col. 1 paragraph 4); obtaining information on a process to be performed by said plurality of devices or information on a process to be performed on said plurality of devices, this information obtaining step being performed by an arbitrary one of said plurality of devices (Page 3, Col. 1 paragraph 4 'Task Announcements'); and determining a process to be performed by said plurality of devices or a process to be performed on said plurality of devices based on said obtained information and said functional information, said environmental information, and said status information, this process determining step being performed by said arbitrary device (Page 4, 'Bidding' and 'Bid Processing'). Smith further teaches at least one of said devices is movable (Page 3, 2nd paragraph under 'Example') and said environmental information includes position information indicating a position of a device (Page 3, see Fig. 1-3). It is inherent the position information will change based on the movement of the at least one movable device. Smith does not explicitly disclose said at least one movable device broadcasts the changed position information to the other devices. Dvorak teaches a movable device such as a robot or moving appliance (Col. 1 lines 24-27 and Col. 9 lines 40-45) can broadcast its changed position based on it movement (Col. 2 lines 36-44). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to take the method disclosed by Smith and modify it as indicated by Dvorak such that when said position information is changed based on movement to the at least one moveable device, said at least one movable device broadcasts the changed position information to the other devices. One would be motivated to have this as there is need for accurately determining the locations of devices that move (Col. 1 lines 25-27 and lines 59-67 of Dvorak).

10. With respect to Claim 2, Smith in view of Dvorak teaches all the limitations of Claim 1 and further teaches wherein a plurality of pieces of information are obtained by said arbitrary device and said plurality of pieces of information include functional information (Page 4, Col. 2 paragraph 3 of Smith), environmental information (Page 2, Col. 2 paragraph 5 of Smith) and status information on said plurality of devices (Page 5, Col. 1 paragraph 4 of Smith).

11. With respect to Claim 3, Smith in view of Dvorak teaches all the limitations of Claim 1 and further teaches wherein information obtained by said arbitrary device is a request for a process to be performed by said plurality of devices or a process to be performed on said plurality of devices (Page 3 'Task Announcement' of Smith).

12. With respect to Claim 5, Smith in view of Dvorak teaches all the limitations of Claim 1 and further teaches wherein said position information includes at least one of an absolute position of the device, a relative position of the device to another device, and a distance obtained based on a route which can be used by the device (Page 3, see Fig. 1-3 and Page 2, Col. 2 paragraph 5 and 6 of Smith).

13. With respect to Claim 6, Smith in view of Dvorak teaches all the limitations of Claim 1 and further teaches wherein said plurality of devices operate to perform a predetermined process, said predetermined process including information of changing of conditions of said predetermined process (Page 7 Col. 2 last paragraph and first two lines Page 8).

14. With respect to Claim 7, Smith teaches an inter-device cooperative control system composed of a plurality of devices having a communication function, each of said plurality of devices communicating with another device (Page 2, Col. 1 paragraph 4), said inter-device cooperative control system comprising: storage means for storing functional information including at least one of information on a function possessed by a device and information on a function to be performed on the device (Page 2, Col. 2 paragraph 5 and Page 4, Col. 2 paragraph 3), environmental information on the environment in which the device is located (Page 2, Col. 2 paragraph 5), and status information which indicates the progress of at least one of a process performed by the device and a process performed on the device (Page 5, Col. 1 paragraph 4), said storage means being owned by each of said plurality of devices (This is inherent since each device can act as either the device requesting a process or acting on a request. See Page 2, Col. 1 paragraph 4); means for obtaining information on a process to be performed by said plurality of devices or information on a process to be performed on said plurality of devices (Page 3, 'Task Announcements'), said obtaining of information being performed by an arbitrary one of said plurality of devices (Page 2, Col. 1 paragraph 4); and means for determining a process to be performed by said plurality of

devices or a process to be performed on said plurality of devices based on information obtained by said arbitrary device and functional information, environmental information, and status information each possessed by said arbitrary device (Page 4, 'Bidding' and 'Bid Processing'). Smith further teaches at least one of said devices is movable (Page 3, 2nd paragraph under 'Example') and said environmental information includes position information indicating a position of a device (Page 3, see Fig. 1-3). It is inherent the position information will change based on the movement of the at least one movable device. Smith does not explicitly disclose said at least one movable device broadcasts the changed position information to the other devices. Dvorak teaches a movable device such as a robot or moving appliance (Col. 1 lines 24-27 and Col. 9 lines 40-45) can broadcast its changed position based on it movement (Col. 2 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Smith and modify it as indicated by Dvorak such that when said position information is changed based on movement to the at least one moveable device, said at least one movable device broadcasts the changed position information to the other devices. One would be motivated to have this as there is need for accurately determining the locations of devices that move (Col. 1 lines 25-27 and lines 59-67 of Dvorak).

15. With respect to Claim 8, Smith in view of Dvorak teaches all the limitations of Claim 7 and further teaches wherein a plurality of pieces of information are obtained by said arbitrary device and said plurality of pieces of information include functional information (Page 4, Col. 2 paragraph 3 of Smith), environmental information (Page 2,

Col. 2 paragraph 5 of Smith), and status information on said plurality of devices (Page 5, Col. 1 paragraph 4 of Smith).

16. With respect to Claim 9, Smith in view of Dvorak teaches all the limitations of Claim 7 and further teaches wherein information obtained by said arbitrary device is a request for a process to be performed by said plurality of devices or a process to be performed on said plurality of devices (Page 3 'Task Announcements' of Smith).

17. With respect to Claim 11, Smith in view of Dvorak teaches all the limitations of Claim 7 and further teaches wherein said position information includes at least one of an absolute position of the device, a relative position of the device to another device, and a distance obtained based on a route which can be used by the device (Page 3, see Fig. 1-3 and Page 2, Col. 2 paragraph 5 and 6 of Smith).

18. With respect to Claim 12, Smith teaches all the limitations of Claim 7 and further teaches wherein said plurality of devices operate to perform a predetermined process, said predetermined process including information of changing of conditions of said predetermined process (Page 7 Col. 2 last paragraph and first two lines Page 8).

19. With respect to Claim 13, Smith teaches a device employed in an inter-device cooperative control system in which a plurality of devices communicate with one another (Page 2, Col. 1 paragraph 4), said device comprising: storage means for storing functional information including at least one of information on a function possessed by a device and information on a function to be performed on the device (Page 2, Col. 2 paragraph 5 and Page 4, Col. 2 paragraph 3), environmental information on the environment in which the device is located (Page 2, Col. 2 paragraph 5), and status

information which indicates the progress of at least one of a process performed by the device and a process performed on the device (Page 5, Col. 1 paragraph 4), means for obtaining information on a process to be performed by said plurality of devices or information on a process to be performed on said plurality of devices (Page 3, 'Task Announcements'), and means for determining a process to be performed by said plurality of devices or a process to be performed on said plurality of devices based on information obtained by other devices and functional information, environmental information, and status information each possessed by the device (Page 4, 'Bidding' and 'Bid Processing'). Smith further teaches at least one of said devices is movable (Page 3, 2nd paragraph under 'Example') and said environmental information includes position information indicating a position of a device (Page 3, see Fig. 1-3). It is inherent the position information will change based on the movement of the at least one movable device. Smith does not explicitly disclose said at least one movable device broadcasts the changed position information to the other devices. Dvorak teaches a movable device such as a robot or moving appliance (Col. 1 lines 24-27 and Col. 9 lines 40-45) can broadcast its changed position based on it movement (Col. 2 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Smith and modify it as indicated by Dvorak such that when said position information is changed based on movement to the at least one moveable device; said at least one movable device broadcasts the changed position information to the other devices. One would be motivated to have this as there is need

for accurately determining the locations of devices that move (Col. 1 lines 25-27 and lines 59-67 of Dvorak).

20. With respect to Claim 14, Smith teaches in view of Dvorak all the limitations of Claim 13 and further teaches wherein a plurality of pieces of information are obtained by the device and said plurality of pieces of information include functional information (Page 4, Col. 2 paragraph 3 of Smith), environmental information (Page 2, Col. 2 paragraph 5 of Smith), and status information on said plurality of devices (Page 5, Col. 1 paragraph 4 of Smith).

21. With respect to Claim 15, Smith in view of Dvorak teaches all the limitations of Claim 13 and further teaches wherein information obtained by said other devices is a request for a process to be performed by said plurality of devices or a process to be performed on said plurality of devices (Page 3 'Task Announcements' of Smith).

22. With respect to Claim 17, Smith teaches all the limitations of Claim 13 and further teaches wherein said position information includes at least one of an absolute position of the device, a relative position of the device to another device, and a distance obtained based on a route which can be used by the device (Page 3, see Fig. 1-3 and Page 2, Col. 2 paragraph 5 and 6 of Smith).

23. With respect to Claim 18, Smith teaches all the limitations of Claim 13 and further teaches wherein said plurality of devices operate to perform a predetermined process, said predetermined process including information of changing of conditions of said predetermined process (Page 7 Col. 2 last paragraph and first two lines Page 8 of Smith).

Response to Arguments

24. Applicant's arguments with respect to claims 1-3, 5-9, 11-15, 17 and 18 have been considered but are moot in view of the new ground(s) of rejection. However, the examiner will respond to arguments still considered pertinent to the new grounds of rejection.

25. Applicant argues – "*Smith fails to teach or suggest that at least one of the plurality of devices is movable...that the environmental information of the environment used by each device includes position information indicating a position of a device in the environment...*"

a. Smith states on Page 3, 2nd paragraph under 'Example', "Use of the contract net protocol in a DSS makes it possible for the sensor system to be configured dynamically, taking into account such factors as...their locations." Since their locations can be "configured dynamically", it is reasonable to state that "at least one of the plurality of devices is movable". This is further acknowledged by the fact that the devices in the contract net protocol know and make negotiations based on their locations (Page 3 Fig. 1, Fig. 3), for example only cooperating with those devices that are located in the same relative area (Page 2, Col. 2 paragraph 5 and 6 of Smith). Note that Fig.1 and Fig. 3 on Page 3 specifically show position information that indicates "a position of a device in the environment."

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27. U.S. Patent 6,683,538 by Wilkes, Jr. "Position dependent messaging system" January 27, 2004. Discloses a mobile device that can broadcast it change in position.

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

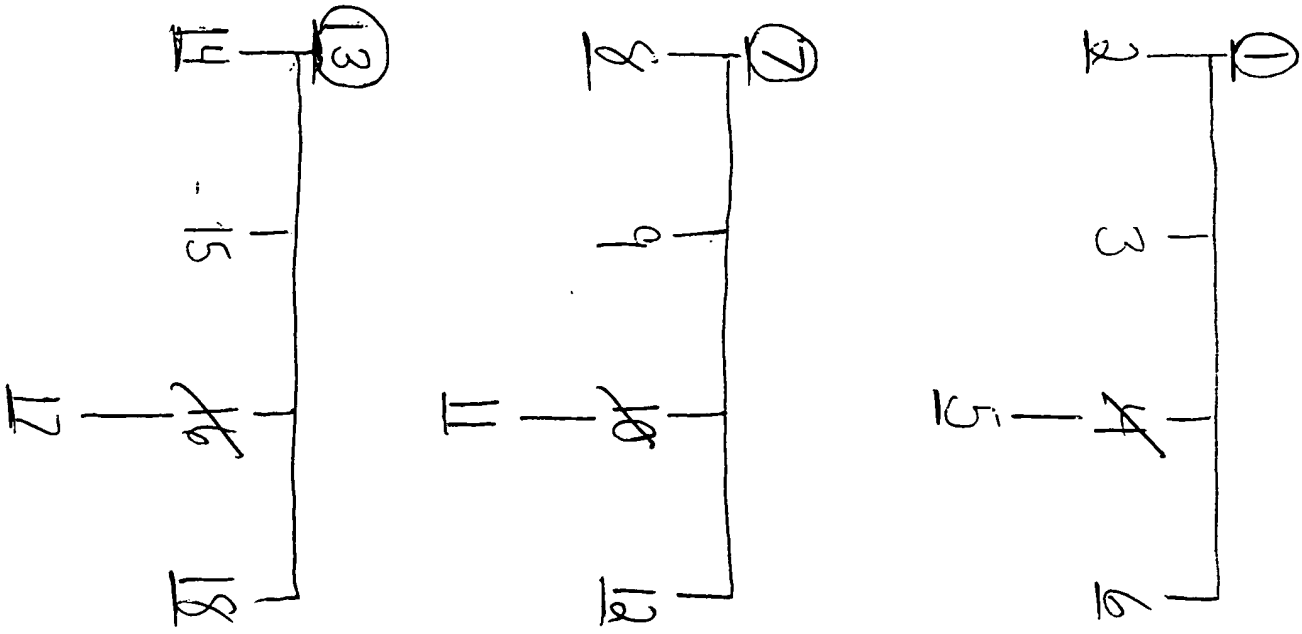
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 703-305-4868. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lazaro
May 17, 2004

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER



Claim Tree
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as of 3/15/04